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EXAMINER
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MITCHELL, JASON D

ART UNIT	PAPER NUMBER
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2193

NOTIFICATION DATE	DELIVERY MODE
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07/09/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/763,487	<b>Applicant(s)</b> GRACE, ANDREW	
	<b>Examiner</b> Jason Mitchell	<b>Art Unit</b> 2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-14,16,18,20-24,26-32 and 34-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-14,16,18,20-24,26-32 and 34-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

This action is in response to a request for continued examination filed on 6/11/08.

Claims 1-2, 4-14, 16, 18, 20-24, 26-32 and 34-54 are pending in this application.

### *Response to Arguments*

**Applicant's arguments filed 6/11/08 have been fully considered but they are not persuasive.**

#### **A. Claims 1 and 41**

In the par. bridging pp. 15-16 the applicants state:

Davis does not disclose that a plurality of cross-references are searched in order to identify the second cross-reference that matches the first cross-reference. In addition, Davis does not disclose that the cross-references that are searched are in the output description. Thus, Davis does not disclose *searching a plurality of cross-references in an output description to identify a second cross-reference that matches the first cross-reference, the second cross-reference being associated with a segment in the output description that corresponds to the segment in the input description.*

The examiner respectfully disagrees. Davis discloses a plurality of cross references indicating correspondence between an input and output description (col. 20, lines 39-46 "source and translation hash entries 478 are inserted into a display partners list 514. ... a list of pairs of display entries 490 that are meant to be displayed on the same line.") Davis further discloses searching this plurality of cross-references (col. 21, lines 2-5 "the display pairs for those display entries 490 are found in the display partners list 514"). The applicants' claim does not recite any details of the cross-references, how the search is preformed or what form the input and output descriptions should take.

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Accordingly, it is reasonable to read Davis' display list entries on the claimed cross references (see e.g. col. 20, lines 39-46 "pairs of display entries 490 that are meant to be displayed on the same line"), Davis' reference to this list (col. 21, lines 2-5 "the display pairs ... are found") on the claimed search and the respective 'columns' of Davis' display list on the input and output descriptions (col. 20, lines 39-46 "one display entry 490 from the source hash table 470 and one display entry from the translation hash table 500"). Thus, given the broadest reasonable interpretation of the claim it should be seen that Davis anticipates the limitations in question.

### Claims 20 and 47

In the par. bridging pp. 20-21, the applicants state:

The Examiner alleges that a connection line would be "an obvious alternate method of indicating the association between Davis' input an[d] output descriptions" (Office Action, page 18). Applicant respectfully urges that doing so would not address all of the features of claims 20 and 47. In claims 20 and 47, there is a first *segment* and a second *segment* that correspond to each other. Their correspondence may be indicated in many ways, including highlighting (claim 21) and background coloring (claim 22). Claims 20 and 47 further recite that the correspondence of *portions within the segments* may be indicated by connection lines, where *portions are subsets of segments*. Davis discloses that "corresponding groups of elements are aligned" (Davis, col. 6, lines 54-56) (emphasis added). Substituting the alignment with connection lines, as the Examiner suggests, fails to disclose or suggest that the correspondence of *segments* and the correspondence of *portions within those segments* would be indicated at the same time in different ways because Davis' group "does not require the related source instruction elements 422 and translation instruction elements 426 be adjacent to or horizontally aligned with each other" (Davis, col. 16, lines 50-60).

The examiner respectfully disagrees. First it is noted the citation from Davis, col. 16, lines 50-60 refers to a "correspondence map" and not to an aspect of the display (e.g. fig. 3) thus its inclusion here is largely irrelevant. Further, Davis discloses that

translation of a single line of code may produce multiple lines of code (see e.g. Fig. 3, highlighted sections 94) and that translation of multiple lines of code may produce a single line of translated code (see. e.g. col. 10, lines 14-16 "two opcodes ... in the source opcodes can translate into a single opcode ... in the translation"). In view of this, those of ordinary skill in the art would have recognized that, particularly in the case of a multiple element selection, confusion may arise if only a single correspondence indicator (e.g. highlighting) is used. Because the intent of the Davis system is to provide an accurate indication of the translation (see e.g. col. 1, lines 63-65 "efficient and accurate translations"; col. 21, lines 35-37 "an intuitive display is provided by which the user is able to efficiently review, modify and save a translation") those of ordinary skill in the art would have been motivated to provide a secondary correspondence indicator such as the 'line' taught by Sites and discussed further below. For example, if a user selected lines 09-19 on the source display of Davis' Fig. 3, merely highlighting lines 023-036 on the translation display would not accurately indicate that the "abs" opcode in the source resulted in the "ABS A,A" and "RSBX C" opcodes and not the "ADDC \*(ZERO),A" or "ADD B,A". Including a secondary indicator, for example a line from the source "abs" to the translation "ABS A,A" and another from the source "adcb" to the translated "ADDC \*(ZERO), A" would solve this problem.

In the first full par. on pg. 21, the applicants state:

Applicant claims indicating at least two level of correspondence: 1) the correspondence between a first segment and a second segment and 2) the correspondence between a portion in the first segment and a portion in the second segment. Sites discloses one correspondence: using a line to connect "the block 210

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at the beginning of the procedure to the block 213 where the uninstantiated variable was first used" (Sites, col. 24, lines 11-13). Furthermore, the connection line in Sites does not connect blocks that are translations of each other. Thus, Sites does not disclose or suggest *selecting or marking a first segment and a second segment that correspond to each other, the correspondence indicating that the second segment is a translation of the first segment and connecting a portion in the first segment and a corresponding portion in the second segment through a connection line to indicate that the connected portions in the first and second segments correspond to each other, the portion in the first segment being a subset of the first segment, the portion in the second segment being a subset of the second segment and the correspondence indicating that the portion in the first segment is a translation of the portion in the second segment*, as recited in claims 20 and 47.

The examiner respectfully disagrees. Sites is relied upon only to show that "lines" where known and used in the art to indicate to a user that a relationship exists between two pieces of code (e.g. col. 24 lines 11-13 "line 214 connects the block 210 ... to the block 213"). Showing a user the various corresponding lines of source and translated documents is disclosed and motivated by the teachings of Davis as discussed above. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Perhaps most importantly, Sites clearly shows the use of "lines" to indicate associations between pieces of source code was within the level of ordinary skill at the time of the invention. Further, the use of such lines in the claimed context would result in only the expected results. Specifically, a line would be displayed in a GUI 'connecting' two lines of code. Accordingly, the claimed limitation does not represent a patentable distinction over the prior art.

**Claims 2, 4-14, 16, 18, 21-24, 26-32, 34-40, 42-46, 48-49 and 51**

The applicants' arguments regarding these claims rely on the assertions made against their respective parent claims and are not persuasive for the reasons discussed above.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**Claims 1-2, 4, 50 and 52 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

**Claim 1** is directed to a method which is only nominally tied to a specific device (i.e. the method is recited as "In an electronic device". The specific method steps do not recite any use or specific structural relationship to this device. Further, the claim does not recite the transformation of underlying subject matter to a different state or thing. Specifically the claim is directed to "identifying" and "displaying" information without changing its state. Accordingly the claim is rejected as directed to non-statutory subject matter.

For the sake of clarity it is noted that the displayed "cursor" of claim 11 and the "automatic" selection of a second segment are thought to represent a functional interconnection between the respective method steps and the "electronic device". Specifically, a cursor is interpreted as a collection of pixels displayed on a digital screen and the automatic selection it thought to indicate some processing or action taken by

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the electronic device. This rejection can be overcome by amending claim 1 to recite similar limitations or to explicitly state that the "electronic device" performs the claimed method steps.

**Claims 2, 4, 50 and 52** depend from claim 1 and do not correct this issue and are thus rejected for the same reason.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-2, 4-10, 20-24, 26-30, 41-46 and 50-52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

**Claim 1** recites the limitation "the display" in the last line. There is insufficient antecedent basis for this limitation in the claim.

**Claims 2, 4-10, 50 and 52** depend from claim 1 and are thus rejected for the same reason.

**Claim 20** recites the limitation "the display" in the 2<sup>nd</sup> paragraph. There is insufficient antecedent basis for this limitation in the claim.

**Claims 21-24 and 26-30** depend from claim 20 and are thus rejected for the same reason.

**Claims 41 and 44** recite "the display" in the last paragraph. There is insufficient antecedent basis for this limitation in the claims.



**Claims 42-43, 45-46 and 51** depend from one of claims 41 or 44 and are thus rejected for the same reason.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

**Claims 1-2, 5-10, 31, 34-43 and 52 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,829,759 to Davis et al. (Davis).**

**Regarding Claims 1 and 41:** Davis discloses in an electronic device a method comprising:

identifying a first cross-reference associated with a segment in an input description (col. 21, lines 2-5 "Once the plurality of display entries 490 associated with the line number have been found in the source hash table 470");

searching a plurality of cross-references in an output description to identify a second cross-reference that matches the first cross-reference (col. 21, lines 2-5 "the display pairs for those display entries 490 are found in the display partners list 514"), the second cross-reference being associated with a segment in the output description that corresponds to the segment in the input description (col. 20, lines 39-46 "display

partners list 514 [is] a list of pairs of display entries 490 that are meant to be displayed on the same line."); and

displaying the segment in the input descriptions and the segment in the output description together on the display (col. 8, lines 6-8 "The source window 74 displays the source elements 86, while the translation window 76 displays the translation elements 88").

**Regarding Claim 2:** The rejection of claim 1 is incorporated; further Davis discloses the input description and the output description include code descriptions expressed in programming languages (col. 5, lines 5-6 "translates between assembly language files").

**Regarding Claim 5:** The rejection of claim 1 is incorporated; further Davis discloses the input descriptions and the output descriptions are displayed in separate panes of a same window (col. 7, lines 51-54 "a graphical interface window 72 having a source window 74 [and] a translation window 76").

**Regarding Claim 6:** The rejection of claim 1 is incorporated; further Davis discloses the input description and the output description are displayed in separate windows (col. 7, lines 51-54 "a source window 74 [and] a translation window 76").

**Regarding Claim 7:** The rejection of claim 1 is incorporated; further Davis discloses:

providing a first scrolling tool for scrolling the input description (Fig. 3; col. 8, lines 14-16 “Synchronized scroll bars 92 are provided for the windows 74”); and

providing a second scrolling tool for scrolling the output description (Fig. 3; col. 8, lines 14-16 “Synchronized scroll bars 92 are provided for the windows ... 76”).

**Regarding Claims 8 and 42:** The rejection of claims 7 and 41 is incorporated; further Davis discloses the first and second scrolling tool includes scrolling bars (Fig. 3; col. 8, lines 14-16 “Synchronized scroll bars 92”).

**Regarding Claims 9 and 43:** The rejection of claims 8 and 42 is incorporated; further Davis discloses in response to controlling one of the first scrolling bar or the second scrolling bar, the other scrolling bar is automatically controlled in proportion to a controlled amount in said one of the first scrolling bar and the second scrolling bar (Fig. 3; col. 8, lines 14-16 “Synchronized scroll bars 92 ... maintain alignment during any review and modification by the user”).

**Regarding Claim 10:** The rejection of claim 7 is incorporated; further Davis discloses, in response to scrolling one of the input descriptions or the output descriptions, displaying corresponding input descriptions and output descriptions adjacent to the scrolled descriptions on the display (col. 8, lines 14-16 “maintain alignment”).

**Regarding Claim 31:** Davis discloses a system for displaying input code and output code corresponding to the input code, the system comprising:

a processor configured to:

identify a first cross-reference associated with a segment in the input code (col. 21, lines 2-5 "Once the plurality of display entries 490 associated with the line number have been found in the source hash table 470"), and

search a plurality of cross-references in the output code to identify a second cross-reference that matches the first cross-reference (col. 21, lines 2-5 "the display pairs for those display entries 490 are found in the display partners list 514"), the second cross-reference being associated with a segment in the output code that corresponds to the segment in the input code (col. 20, lines 39-46 "display partners list 514 [is] a list of pairs of display entries 490 that are meant to be displayed on the same line."); and

a display for showing the segment in the input code and the segment in the output code together (Fig. 3).

**Regarding Claim 34:** The rejection of claim 31 is incorporated; further Davis discloses the cross-references include line references to each line of the input code and corresponding line of the output code (Fig. 15; col. 17, lines "The hash entries 478 include a source line number 486").

**Regarding Claim 35:** The rejection of claim 31 is incorporated; further Davis discloses the cross-references include line references to each line of the output code and corresponding line of input code (Fig. 15; col. 17, lines “The hash entries 478 include a source line number 486”).

**Regarding Claim 36:** The rejection of claim 31 is incorporated; further Davis discloses the cross-references include references to an element of the input code and a corresponding output code element (col. 14, lines 26-31 “source and corresponding translation instructions are associated with each other”).

**Regarding Claim 37:** The rejection of claim 31 is incorporated; further Davis discloses the cross-references include references to an element of the output code and a corresponding input code element (col. 14, lines 26-31 “source and corresponding translation instructions are associated with each other”).

**Regarding Claim 38:** The rejection of claim 31 is incorporated; further Davis discloses the display tool provides a graphical user interface element in which the input code and the output code are displayed together (Fig. 3).

**Regarding Claim 39:** The rejection of claim 31 is incorporated; further Davis discloses the processor is further configured to display the input output code in separate windows (col. 7, lines 51-54 “a source window 74 [and] a translation window 76”).

**Regarding Claim 40:** The rejection of claim 31 is incorporated; further Davis discloses the input code and the output code are described in a textual format (Fig. 3).

**Regarding Claim 52:** the rejection of claim 1 is incorporated; further Davis discloses the first cross-reference is in the input description (col. 20, lines 39-46 "The pair of display entries 490 include one display entry 490 from the source hash table 470").

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,829,759 to Davis et al. (Davis) in view of US 2003/0023755 to Harris et al. (Harris).**

**Regarding Claim 4:** The rejection of claim 1 is incorporated; further Davis discloses the input description and the output description are expressed in different dialects of a programming language (e.g. col. 5, lines 20-24 "In the assembly language embodiment, the translation system 10 may convert an assembly language file for one device into an assembly language file for another device").

Harris teaches the input description and the output description are expressed in a different programming language (par. [0007] “a variety of different mobile device markup languages”).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Davis’ system (e.g. col. 5, lines 20-24 “the translation system 10 may convert”) to express the input and output description in different programming languages, as taught by Harris (par. [0007]). Those of ordinary skill in the art would have been motivated to make such changes in order to “[allow] the distribution of uniform content to multiple types of requesting devices” (Harris par. [0007]).

**Claims 11-14, 16, 44-46 and 53-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,829,759 to Davis et al. (Davis).**

**Regarding Claims 11 and 44:** Davis discloses, in an electronic device a method comprising:

displaying a first description and a second description together on the display (col. 8, lines 6-8 “The source window 74 displays the source elements 86, while the translation window 76 displays the translation elements 88”);

displaying a first selection of a first element in the first description (col. 8, lines 17-18 “In response to a user selection of an element”);

identifying a first cross-reference associated with the first element (col. 21, lines 2-5 "Once the plurality of display entries 490 associated with the line number have been found in the source hash table 470");

searching a plurality of cross-references in the second description to identify a second cross-reference that matches the first cross-reference (col. 21, lines 2-5 "the display pairs for those display entries 490 are found in the display partners list 514"), the second cross-reference being associated with a second element in the second description that corresponds to the first element (col. 20, lines 39-46 "display partners list 514 [is] a list of pairs of display entries 490 that are meant to be displayed on the same line."); and

displaying a second selection in the second element (col. 8, lines 17-18 "In response to a user selection of an element, the corresponding source and translation elements 84 are highlighted").

Davis does not explicitly disclose displaying a first cursor in a first element and displaying a second cursor in a second element.

Those of ordinary skill in the art would have recognized that a cursor is equivalent to a selection of zero characters. Thus it would at least have been obvious to one of ordinary skill in the art at the time of the invention to provide the functionality disclosed in relation to Davis' 'selections' for a cursor (i.e. a selection of length 0) in



order to assist in the disclosed editing. (col. 21, lines 35-37 “an intuitive display is provided by which the user is able to efficiently review, modify and save a translation”).

**Regarding Claim 12:** The rejection of claim 11 is incorporated; further Davis discloses the first cursor and the second cursor are presented in a start position of the input description and the output description (col. 15, lines 47-54 “determining a source start element”).

**Regarding Claim 13:** The rejection of claim 11 is incorporated; further Davis discloses the first cursor and the second cursor are presented on a same line on the display (col. 8, lines 14-16 “maintain alignment during any review and modification by the user”).

**Regarding Claim 14:** The rejection of claim 11 is incorporated; further Davis discloses the first and second cursors are presented in a middle of the input description and the output description. (Fig. 3, Selection 94)

**Regarding Claim 45:** The rejection of claim 44 is incorporated; further Davis discloses the input description and the output description which the first focus and the second focus are presented to, respectively, make cross-references to each other (col. 14, lines 26-31 “source and corresponding translation instructions are associated with each other”).

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**Regarding Claims 16 and 46:** The rejection of claims 11 and 45 are incorporated; further Davis discloses the cross-references include reference numbers to the input description and the output description (col. 17, lines “The hash entries 478 include a source line number 486”).

**Regarding Claims 53-54:** The rejection of claim 11 is incorporated; further Davis discloses his cross-references are bi-directional (col. 14, lines 42-47 “The source and translation elements 442 and 426 ... are associated with each other through translation 430 ... relationships”; col. 8, lines 17-22 “In response to a user selection of an element, the corresponding source and translation elements 84 are highlighted”) thus Davis' source and translation descriptions can each be read on either the first or second description.

**Claims 18, 32 and 50-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,829,759 to Davis et al. (Davis) in view of “Towards Portable Source Code Representations Using XML” by Mamas et al. (Mamas).**

**Regarding Claim 18:** The rejection of claim 11 is incorporated; further Davis does not disclose his cross references are attached to the input description and the output description using the XML.

Mamas teaches attaching meta-data to a source code description using the XML (Extensible Markup Language) programming language (pg. 175. the par. bridging cols. 1 and 2 “XML-based program representation in which the corresponding DOM trees represent source code information”).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to attach Davis’ cross references to the input and output descriptions (col. 14, lines 26-30 “source and corresponding translation instructions are associated with each other”) using XML as taught by Mamas (pg. 175. the par. bridging cols. 1 and 2 “annotated source code in the form of a DOM”) because “source code representation schemes must be compact, accessible by well defined application programming interfaces (APIs) and above all portable to different operation platforms and various CASE tools” (Mamas Abstract)

**Regarding Claim 32:** the rejection of claim 31 is incorporated; further Davis discloses the processor is further configured to:

generate an input code file and an output code file, the input code file containing the first cross-reference associated with the input code (col. 20, lines 44-46 “The pair of display entries 490 include one display entry 490 from the source hash table 470”), and the output code markup file containing the second cross-reference associated with the output code (col. 20, lines 44-46 “The pair of display entries 490 include one display entry 490 from the ... translation hash table 500”).

Davis does not disclose the input code file and output code file being 'markup' files.

Mamas teaches attaching meta-data to a source code description using the XML (Extensible Markup Language) programming language (pg. 175. the par. bridging cols. 1 and 2 "XML-based program representation in which the corresponding DOM trees represent source code information").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to represent Davis' cross references associated with the input and output descriptions (col. 14, lines 26-30 "source and corresponding translation instructions are associated with each other") using XML as taught by Mamas (pg. 175. the par. bridging cols. 1 and 2 "annotated source code in the form of a DOM") because "source code representation schemes must be compact, accessible by well defined application programming interfaces (APIs) and above all portable to different operation platforms and various CASE tools" (Mamas Abstract).

**Regarding Claims 50 and 51:** The rejection of claims 1 and 41 are incorporated; further, Davis does not disclose the first cross-reference and the second cross-reference are coded in the Extensible Markup Language (XML) programming language.

Mamas teaches attaching meta-data to a source code description using the XML (Extensible Markup Language) programming language (pg. 175. the par. bridging cols. 1 and 2 “XML-based program representation in which the corresponding DOM trees represent source code information”).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to represent Davis’ cross references associated with the input and output descriptions (col. 14, lines 26-30 “source and corresponding translation instructions are associated with each other”) using XML as taught by Mamas (pg. 175. the par. bridging cols. 1 and 2 “annotated source code in the form of a DOM”) because “source code representation schemes must be compact, accessible by well defined application programming interfaces (APIs) and above all portable to different operation platforms and various CASE tools” (Mamas Abstract).

**Claims 20-21, 23, 26-29 and 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,829,759 to Davis et al. (Davis) in view of US 5,507,030 to Sites (Sites).**

**Regarding Claims 20 and 47:** Davis discloses in an electronic device running a software tool a method comprising:

displaying a first description and a second description together on the display (col. 8, lines 6-8 “The source window 74 displays the source elements 86, while the translation window 76 displays the translation elements 88”);

selecting a first segment in the first description (col. 8, lines 17-18 “In response to a user selection of an element”);

in response to selecting the first segment in the first description, selecting a second segment in the second description automatically, the second segment corresponding to the first segment, the correspondence indicating that the second segment is a translation of the first segment (col. 8, lines 17-18 “In response to a user selection of an element, the corresponding source and translation elements 84 are highlighted”); and

Davis does not disclose indicating a connection between a subset of the first segment and a subset of the second segment using a connection line.

Sites teaches indicating a first and second segment are associated with each other through a connection line (Fig. 16, 214).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the connection line taught by Sites (Fig. 16, 214) to indicate an association between subsets of the first and second segments when Davis’

“highlighting” (col. 8, lines 17-18) would be insufficient to convey an accurate representation of the translation. For example in the case of a user selection which spans multiple elements which do not produce a 1-1 translation (e.g. Davis Fig. 3, selections 94; col. 10, lines 14-16 “two opcodes ... can translate into a single opcode”). Those of ordinary skill in the art would have been motivated to make such a modification to ensure that a “translation element 88 may be immediately identified with its source element 86”. (Davis col. 8, lines 19-22). Further such a combination would have been within the level of ordinary skill and would have produced only the expected results.

**Regarding Claim 21:** The rejection of claim 20 is incorporated; further Davis discloses the first segment or the second segment is highlighted (col. 8, lines 17-18 “elements 94 are highlighted”).

**Regarding Claims 23, 28 and 49:** The rejection of claims 20, 23 and 48 are incorporated, respectively; further, Davis discloses each of a plurality of lines makes a different reference to corresponding lines in the second segment (Fig. 15 see e.g. S<sub>1</sub> and S<sub>2</sub>)

The Davis-Sites combination does not explicitly disclose the first segment includes a plurality of lines however, it would at least have been obvious to a person of ordinary skill in the art at the time of the invention to extend Davis’ explicitly disclosed

single line selection (Fig. 3, selection 94) to include multiple lines (e.g. Fig. 16 partition 452) so that “corresponding groups of source and translation elements 452 and 456 can be [highlighted and] aligned for display to the user” (col. 15, lines 35-37).

**Regarding Claims 26 and 48:** The rejections of claims 20 and 47 are incorporated; further Davis discloses the input description in the first segment and the corresponding output description in the second segment make cross-references to each other (col. 14, lines 26-30 “source and corresponding translation instructions are associated with each other”).

**Regarding Claim 27:** The rejection of claim 26 is incorporated; further Davis discloses the first segment includes a part of a line in the input descriptions and the part of the line in the first segment makes a different reference to a corresponding part of a line in the second segment (col. 4, lines 57-60 “the translation machine description 36 maps instructions and their associated operands from the source files 24 and 26 to the translation files 28 and 30”).

**Regarding Claim 29:** The rejection of claim 26 is incorporated; further Davis discloses multiple references are made to a common line in the second segment, the common line being shared by more than one line in the second segment (col. 15, lines 1-4 “Since more than one translation element 426 may be generated from a single source element



422, a plurality of translation relationships 430 may refer to a single source element 422”).

**Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,829,759 to Davis et al. (Davis) in view of US 5,507,030 to Sites (Sites) in view of Official Notice.**

**Regarding Claim 22:** The rejection of claim 20 is incorporated; further the Davis-Sites combination does not explicitly disclose that the background of the selected segment (Fig. 3, 94) is colored.

However, Official notice is taken that those of ordinary skill in the art would have recognized a colored background as an obvious method of providing the highlighting discussed, for example, in col. 8, lines 17-18 and shown in Fig. 3.

**Claims 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,829,759 to Davis et al. (Davis) in view of US 5,507,030 to Sites (Sites) in view of US 5,797,011 to Kroll et al. (Kroll).**

**Regarding Claim 24:** The rejection of claim 23 is incorporated; further the Davis-Sites combination does not disclose the plurality of lines is highlighted in different colors.

Kroll discloses using color to indicate distinctions between translation elements (col. 6, line 67-col. 7, line 4 “displayed in a manner, such as using different colors, that indicates that the related target part is not to be translated with the target panel”)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to highlight each element of plurality of Davis's lines (e.g. Fig. 16, S<sub>1-3</sub> of partition 452) in a different color as taught by Kroll (col. 6, line 67-col. 7, line 4 “displayed in a manner, such as using different colors, ... indicates”) to accurately represent the mapping disclosed by Davis (see e.g. Fig. 15, S<sub>1-3</sub> and T<sub>1-3</sub>).

**Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,829,759 to Davis et al. (Davis) in view of US 5,507,030 to Sites (Sites) in view of “Towards Portable Source Code Representations Using XML” by Mamas et al. (Mamas).**

**Regarding Claim 30:** The rejection of claim 26 is incorporated; further the Davis-Sites combination does not disclose his cross references are attached to the input description and the output description using the XML.

Mamas teaches attaching meta-data to a source code description using the XML (Extensible Markup Language) programming language (pg. 175. the par. bridging cols.

1 and 2 “XML-based program representation in which the corresponding DOM trees represent source code information”).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to attach Davis’ cross references to the input and output descriptions (col. 14, lines 26-30 “source and corresponding translation instructions are associated with each other”) using XML as taught by Mamas (pg. 175. the par. bridging cols. 1 and 2 “annotated source code in the form of a DOM”) because “source code representation schemes must be compact, accessible by well defined application programming interfaces (APIs) and above all portable to different operation platforms and various CASE tools” (Mamas Abstract).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Mitchell whose telephone number is (571) 272-3728. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Bullock Lewis can be reached on (571) 272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2193

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Mitchell/  
Jason Mitchell  
7/2/08